

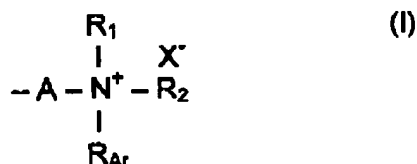
Serial No. 10/676,335

THE CLAIMS

1. **(Original)** A process for production of paper from an aqueous suspension containing cellulosic fibres, and optionally fillers, which comprises adding to the suspension a cationised polysaccharide product comprising a polysaccharide having (i) at least one first substituent having an aromatic group; and (ii) at least one second substituent having no aromatic group, forming and draining the suspension on a wire.

2. **(Original)** The process of claim 1, wherein the polysaccharide has a cationic charge density within the range of from 0.05 to 4.0 meq/g.

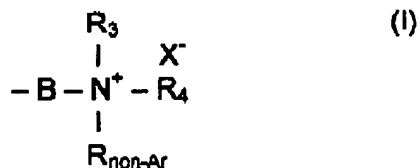
3. **(Currently amended)** The process of claim 1, wherein the first substituent comprises the following general structural formula (I):



wherein A is a group attaching N to the polysaccharide, R<sub>1</sub> and R<sub>2</sub> are individually H or alkyl having from 1 to 3 carbon atoms, R<sub>Ar</sub> is an aromatic group containing 1 to 12 carbon atoms, or, alternatively, R<sub>1</sub>, R<sub>2</sub>, and R<sub>Ar</sub> together with N form an aromatic group, and X<sup>-</sup> is a counterion.

4. **(Original)** The process of claim 1, wherein the first substituent comprises a benzyl group.

5. **(Original)** The process of claim 1, wherein the second substituent comprises the general structural formula (II):



wherein B is a group attaching N to the polysaccharide, R<sub>3</sub> and R<sub>4</sub> are individually H or alkyl having from 1 to 3 carbon atoms; R<sub>non-Ar</sub> is a non-aromatic group containing 1 to 4 carbon atoms; and X<sup>-</sup> is a counterion.

Serial No. 10/676,335

6. **(Original)** The process of claim 1, wherein first substituent comprises —  $\text{CH}_2\text{—CH(OH)—CH}_2\text{—N}^+(\text{CH}_3)_2\text{CH}_2\text{C}_6\text{H}_5$   $\text{Cl}^-$  and the second substituent comprises —  $\text{CH}_2\text{—CH(OH)—CH}_2\text{—N}^+(\text{CH}_3)_3$   $\text{Cl}^-$ .

7. **(Original)** The process of claim 1, wherein the polysaccharide comprises cationised starch, cationised guar gum, or a mixture thereof.

8. **(Original)** The process of claim 1, wherein it further comprises adding at least one anionic material to the suspension.

9. **(Original)** The process of claim 8, wherein the anionic material comprises silica-based particles or clay of smectite type.

10. **(Original)** The process of claim 9, wherein the anionic material comprises silica-based particles having a specific surface area of at least  $100 \text{ m}^2/\text{g}$  that are present in a sol having an S value in the range of from 5 to 50%.

11. **(Currently amended)** The process of claim 48, wherein the anionic material comprises an anionic organic step-growth polymer.

12. **(Original)** The process of claim 11, wherein the anionic material comprises an anionic organic step-growth polymer which is a naphthalene sulphonate. .

13. **(Original)** The process of claim 1, wherein the process further comprising recirculating white water and optionally introducing fresh water to form a suspension containing cellulosic fibres, and optional fillers, to be dewatered, the amount of fresh water introduced being less than 30 tonnes per tonne of dry paper produced.

14. **(Original)** The process of claim 1, wherein it further comprises adding to the suspension a cationic polyacrylamide.

15. **(Original)** The process of claim 1, wherein it further comprises adding to the suspension a low molecular weight cationic synthetic organic polymer.

16. **(Withdrawn)** A process for production of paper from an aqueous suspension containing cellulosic fibres, and optionally fillers, which comprises adding to the suspension a cationised polysaccharide product comprising

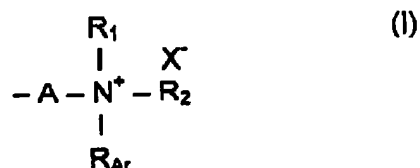
- (i) a polysaccharide having at least one first substituent having an aromatic group;
- and

Serial No. 10/676,335

(ii) a polysaccharide having at least one second substituent having no aromatic group,

forming and draining the suspension on a wire.

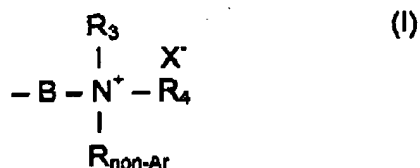
17. **(Withdrawn)** The process of claim 16, wherein the first substituent comprises the following general structural formula (I):



wherein A is a group attaching N to the polysaccharide, R<sub>1</sub> and R<sub>2</sub> are individually H or alkyl having from 1 to 3 carbon atoms, R<sub>Ar</sub> is an aromatic group containing 1 to 12 carbon atoms, or, alternatively, R<sub>1</sub>, R<sub>2</sub>, and R<sub>Ar</sub> together with N form an aromatic group, and X<sup>-</sup> is a counterion.

18. **(Withdrawn)** The process of claim 16, wherein the first substituent comprises a benzyl group.

19. **(Withdrawn)** The process of claim 16, wherein the second substituent comprises the general structural formula (II):



wherein B is a group attaching N to the polysaccharide, R<sub>3</sub> and R<sub>4</sub> are individually H or alkyl having from 1 to 3 carbon atoms; R<sub>non-Ar</sub> is a non-aromatic group containing 1 to 4 carbon atoms; and X<sup>-</sup> is a counterion.

20. **(Withdrawn)** The process of claim 16, wherein first substituent comprises -CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-N<sup>+</sup>((CH<sub>3</sub>)<sub>2</sub>)CH<sub>2</sub>C<sub>6</sub>H<sub>5</sub> Cl<sup>-</sup> and the second substituent comprises -CH<sub>2</sub>-CH(OH)-CH<sub>2</sub>-N<sup>+</sup>((CH<sub>3</sub>)<sub>3</sub>) Cl<sup>-</sup>.

21. **(Withdrawn)** The process of claim 16, wherein the polysaccharide comprises cationised starch, cationised guar gum, or a mixture thereof.

22. **(Withdrawn)** The process of claim 16, wherein it further comprises adding at least one anionic material to the suspension.

Serial No. 10/676,335

23. **(Withdrawn)** The process of claim 22, wherein the anionic material comprises silica-based particles or clay of smectite type.

24. **(Withdrawn)** The process of claim 23, wherein the anionic material comprises silica-based particles having a specific surface area of at least 100 m<sup>2</sup>/g that are present in a sol having an S value in the range of from 5 to 50%.

25. **(Withdrawn)** The process of claim 16, wherein the anionic material comprises an anionic organic step-growth polymer.

26. **(Withdrawn)** The process of claim 25, wherein the anionic material comprises an anionic organic step-growth polymer which is a naphthalene sulphonate. .

27. **(Withdrawn)** The process of claim 16, wherein the polysaccharides are separately added to the suspension.

28. **(Withdrawn)** The process of claim 16, wherein the polysaccharides are added simultaneously to the suspension.

29. **(Withdrawn)** The process of claim 16, wherein it further comprises adding to the suspension a cationic polyacrylamide.

30. **(Withdrawn)** The process of claim 16, wherein it further comprises adding to the suspension a low molecular weight cationic synthetic organic polymer.